IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1. (Currently Amended) A method for reliably storing and updating data blocks on ~~disks~~ a disk array, said method comprising:

writing a data block of said data blocks to be stored in ~~a~~ said disk array;

combining an address of said data block with a set of retrievable addresses;

periodically computing a function of said data to be stored in said disk array to produce a computation;

storing said computation on at least one spare disk;

identifying data blocks of said data blocks that have not been updated recently relative to other data blocks of said data blocks that have been updated recently;

on a disk failure in said disk array, updating said computation using said set of retrievable addresses to recompute only altered portions of said computation and updating said data blocks, wherein said updating of said data blocks comprises updating said data blocks that have not been updated recently prior to updating said data blocks that have been updated recently; and

deleting said set of retrievable addresses.

2. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein said disk failure includes disk failures that are predicted to occur.

3. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein said function comprises a mathematical function.

4. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein said function comprises an error correcting code.

5. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein said address of said data block comprises an address of a corresponding portion of the computed function and said set of retrievable addresses comprises a set of addresses that describe portions of the computed function requiring updating.

6. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein said disk array comprises at least one a RAID array.

7. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, further comprising reconstructing data stored on a failed disk onto at least one replacement disk.

8. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein said steps of updating and deleting are skipped if said set of retrievable addresses exceeds a fraction of said data stored in said disk array.

9. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein altered portions of said computed function are updated whenever a load on said disk array is below a threshold value.

10. (Currently Amended) The method ~~of~~ according to claim 1, all the limitations of which are incorporated herein by reference, wherein altered portions of said computed function that are less likely to be altered again are preferentially updated.

11. (Currently Amended) A method of reducing data loss in a disk array, said method comprising:

periodically storing redundant data into data blocks located on a spare disk;

monitoring disks in said disk array for disk failures;

determining which of said data blocks contain altered redundant data, wherein said altered redundant data comprises at least a portion of said redundant data that has been altered subsequent to an immediate previous time said redundant data was stored;

recomputing said altered portions of said redundant data to produce recomputed altered portions; ~~and~~

storing said recomputed altered portions in said data blocks;

updating said data blocks with altered redundant data when said disk failures have occurred;

identifying data blocks of said data blocks that have not been updated recently relative to other data blocks of said data blocks that have been updated recently; and

on a disk failure in said disk array, updating said data blocks, wherein said updating of said data blocks comprises updating said data blocks that have not been updated recently prior to updating said data blocks that have been updated recently.

12. (Currently Amended) The method ~~of~~ according to claim 11, all the limitations of which are incorporated herein by reference, wherein said disk failures include disk failures that are predicted to occur.

13. (Cancelled)

14. (Currently Amended) The method ~~of~~ according to claim 11, all the limitations of which are incorporated herein by reference, wherein said disk array comprises at least one a RAID array.

15. (Currently Amended) The method ~~of~~ according to claim 11, all the limitations of which are incorporated herein by reference, further comprising reconstructing data stored on a failed disk onto at least one replacement disk.

16. (Currently Amended) The method ~~of~~ according to claim 13, all the limitations of which are incorporated herein by reference, wherein said step of updating said data blocks comprising altered redundant data is skipped if a number of said data blocks exceeds a fraction of said data stored in said disk array.

17. (Currently Amended) The method ~~of~~ according to claim 12, all the limitations of which are incorporated herein by reference, wherein said data blocks containing altered redundant data are updated whenever the load on the disk array is below a threshold value.

18. (Currently Amended) The method ~~of~~ according to claim 17, all the limitations of which are incorporated herein by reference, wherein the data blocks containing altered redundant data that is less likely to be altered again are preferentially updated.

19. (Currently Amended) A system for reducing data loss in a disk array comprising:

a storage unit operable for periodically storing redundant data into data blocks located on a spare disk;

a monitor operable for monitoring the disks in the array for disk failures to occur;

a directory operable for determining which of said data blocks contain altered redundant data, wherein said altered redundant data comprises at least a portion of said redundant data that has been altered subsequent to an immediate previous time said redundant data was stored; ~~and~~

a computer operable for updating only portions of said redundant data that has been altered; and

a controller operable for:

identifying data blocks of said data blocks that have not been updated recently relative to other data blocks of said data blocks that have been updated recently, and

updating said ~~redundant data~~ data blocks when said disk failures have occurred, wherein said updating of said data blocks comprises updating said data blocks that have not been updated recently prior to updating said data blocks that have been updated recently.

20. (Currently Amended) The system ~~of~~ according to claim 19, all the limitations of which are incorporated herein by reference, wherein said disk failures monitored include disk failures that are predicted to occur.

21. (Cancelled).

22. (Currently Amended) The system ~~of~~ according to claim 19, all the limitations of which are incorporated herein by reference, further comprising at least one replacement disk operable for storing reconstructed data previously stored on a failed disk.

23. (Currently Amended) The system ~~of~~ according to claim 19, all the limitations of which are incorporated herein by reference, wherein said directory is operable for marking the recomputed redundant data in said directory.

24. (Currently Amended) The system ~~of~~ according to claim 19, all the limitations of which are incorporated herein by reference, wherein said disk array comprises at least one a RAID array.

25. (Currently Amended) The system ~~of~~ according to claim 19, all the limitations of which are incorporated herein by reference, further comprising a controller operable for updating said redundant data whenever a load on said disk array is below a threshold value.

26. (Currently Amended) The system ~~of~~ according to claim 25, all the limitations of which are incorporated herein by reference, wherein said controller preferentially updates redundant data that is less likely to be altered again.

27. (Cancelled).